

### REMARKS

Applicant has amended claims 1 and 5 to more particularly point out and distinctly claim the subject matter which he regards as his own invention. In addition, he has corrected a typographical error in each of claims 1 and 10 and rewritten claim 4 in the independent form. No new matter has been introduced by the above amendments.

Claims 1-20 are pending. Applicant respectfully requests that the Examiner reconsider this application, as amended, in view of the following remarks.

#### Rejection under 35 U.S.C. § 112, second paragraph

The Examiner rejects claim 4 for indefiniteness, asserting that “[c]laim 4’s adduct would no longer contain a phosphonic acid as required by claim 1.” It appears to be his position that claim 4 does not fall within the scope of claim 1, from which it depends.

For the sole purpose of obviating this rejection, Applicant has rewritten claim 4 in the independent form.

The Examiner also rejects claim 10 for indefiniteness, pointing out that “acrylic (meth)acrylic acid” recited therein has no recognized meaning. The recitation at issue is a typographical error. Applicant has corrected this error by replacing the phrase at issue with “acrylic or (methyl)acrylic acid.”

#### Rejection under 35 U.S.C. § 102/103

The Examiner rejects claims 1-3 and 5-20 for anticipation or alternatively for obviousness, relying on Chang *et al.*, US Patent 5,955,532 (“Chang”). Applicant will discuss independent claims 1 and 5 first.

Claim 1 covers an emulsifier-free microgel. The microgel is prepared by first obtaining polyacrylate (A) containing a hydroxyl group and a carboxyl group, in the presence of compound (B) containing a phosphonic acid group; and then crosslinking polyacrylate (A) thus obtained with aminoplast resin (C). Since compound (B), which is used to prepare polyacrylate (A), contains a phosphoric acid group, the so-obtained polyacrylate (A) also contains a phosphonic acid group, in addition to a hydroxyl group and a carboxyl group. In other words, polyacrylate (A) features coexistence of three

chemical moieties, i.e., a hydroxyl group, a carboxyl group, and a phosphonic acid group. Thus, claim 1 requires using this unique polyacrylate (A) to prepare an emulsifier-free microgel.

Claim 5 also covers an emulsifier-free microgel. The microgel is prepared by first obtaining polyacrylate (E) via copolymerisation of monomer (i) having a polymerisable double bond and a hydroxyl group, monomer (ii) having a polymerisable double bond and a carboxyl group, and monomer (iv) having a polymerisable double bond and at least one phosphonic acid group; and then crosslinking polyacrylate (E) thus obtained with minoplast resin (C). Like polyacrylate (A) recited in claim 1, polyacrylate (E) features coexistence of three chemical moieties, i.e., a hydroxyl group [derived from monomer (i)], a carboxyl group [derived from monomer (ii)], and a phosphonic acid group [derived from monomer (iv)]. Thus, claim 5 also requires using this unique polyacrylate (E) to prepare an emulsifier-free microgel.

Chang teaches a composition containing a graft copolymer and a crosslinking agent. See column 1, line 50 through column 2, line 14. The graft copolymer is prepared from a polymeric backbone and macromonomers using a chain transfer agent. See column 1, line 50 through column 2, line 14 and column 5, lines 43-45. Unlike claims 1 and 5, Chang does not teach or even suggest using a unique polyacrylate [such as polyacrylate (A) or (E)] having a hydroxyl group, a carboxyl group, and a phosphonic acid group. Neither does it teach or suggest using such a unique polymer to prepare an emulsifier-free microgel required by claims 1 and 5. Applicant therefore submits that this reference does not anticipate or render obvious claims 1 and 5.

The Examiner contends that Chang teaches that using polyacrylate as a graft copolymer, pointing to the table at column 10, lines 7-36, and using vinyl phosphonic acid as a chain transfer agent, pointing to the statement at column 5, line 49. It appears to be his position that, as Chang discloses a polyacrylate having a hydroxyl group, a carboxyl group, and a phosphonic acid group, the composition prepared from such a polyacrylate is inherently a microgel.

Applicants disagree. Chang describes a very large number of polymeric backbones, macromonomers, and chain transfer agents that can be used to prepare a copolymer. See column 3, line 56 through column 4, line 6; column 4, line 65 through column 5, line 8; and column 5, lines 39-55. It follows that this reference at most discloses a very broad genus that encompasses the unique polyacrylate required by claims 1 and 5, which contains a hydroxyl group, a carboxyl group, and a phosphonic acid group. In this connection, Applicant would like to point out that the law is well established that “[a] prior art reference that discloses a genus still does not inherently disclose all species within that broad category’ but must be examined to see if a disclosure of the claimed species has been made or whether the prior art reference merely invites further experimentation to find the species” MPEP § 2112.IV, citing *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1367, 71 USPQ2d 1081, 1091 (Fed. Cir. 2004).

Here, Chang merely teaches a broad genus. Since it does not mention a polyacrylate having a hydroxyl group, a carboxyl group, and a phosphonic acid group, **no** “disclosure of the claimed species has been made.” Further, it does not suggest any use of such a polyacrylate, this prior art reference even **fails** to “invite further experimentation to find the species.” According to the MPEP guideline quoted above, Chang, contrary to the Examiner’s belief, does not inherently disclose preparing an emulsifier-free microgel using a polyacrylate having a hydroxyl group, a carboxyl group, and a phosphonic acid group as required by claims 1 and 5. In other words, claims 1 and 5 are patentable over Chang.

For the reasons set forth above, claims 2-3 and claims 6-20, which depend from either claim 1 or claim 5, are also patentable over Chang.

#### Provisional Double-Patenting Rejection

The Examiner provisionally rejects claims 1-20 for nonstatutory obviousness-type double patenting relying on claims 1-4 and 6-20 of copending US Application 10/531,200.

Applicant(s) : Horst Mueller  
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Applicant would like to address this provisional rejection after the Examiner removes the other rejections.

### CONCLUSION

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any other charges or credits to Deposit Account No. 50-4189, referencing Attorney Docket No. 68002-007US1.

Respectfully submitted,

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Y. Rocky Tsao  
Y. Rocky Tsao, Ph.D., J.D.  
Attorney for Applicant  
Reg. No. 34,053

Customer No. 69713  
Occhiuti Rohlicek & Tsao LLP  
10 Fawcett Street  
Cambridge, MA 02138  
Telephone: (617) 500-2527  
Facsimile: (617) 500-2499